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## CONTRIBUTORS.

ADAMS, A. LEITH, M.A., M.D., F.L.S.  
ANSTED, PROFESSOR, F.R.S., F.G.S.  
ANSTIE, F. E., M.D.  
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## HOMER COLOUR-BLIND.

By JABEZ HOGG, F.R.M.S., M.R.C.S., &c.

THE faculty of judging of colour with accuracy and precision may doubtless be considerably improved or augmented by education. But whether the colour sense has undergone any appreciable amount of change or development in historic times it is hardly possible to say. The Evolution hypothesis in no way assists in the elucidation of the question; no information whatever is derived from a retrospective examination of two or three thousand years or more, going back to the days of Anaxagoras, or of Homer. Hitherto Homer's biographers have failed to convince scholars that he, like our own Milton, was blind; others, with no better purpose, allege that he simply laboured under a special defect of vision, of a nameless character. More recently it has been said "that, judging by the colour epithets Homer employed in his poems, his organ of sight and colour, and by inference that of the Greeks of his day, was only partially developed as compared with that of our own." Mr. Gladstone\* first broached this theory, and his conclusions were based partly on the supposed defectiveness of Homer's colour vocabulary, which includes no epithet for either green or blue, and partly on the vague and not unfrequently contradictory manner in which he employed a large number of terms when writing of colour. A later critic†

\* The Nineteenth Century, October, 1877.

† *Ibid.*, February, 1885.

has undertaken to prove that Mr. Gladstone's views are altogether erroneous. The question, however, is not one of sentiment ; it is assuredly an intricate one, and difficult to decide, since many obstacles stand in the way of a satisfactory interpretation of evidence such as that furnished by the Homeric poems. On a careful consideration of the arguments employed by Mr. Gladstone, and those of his opponent in support of an opposite theory, I am led to think that the Homeric colour defect was due to a totally different cause to that suggested.

In trying to arrive at a satisfactory conclusion on a subject of much obscurity, it is usual to base arguments on what is known with some degree of certainty through the results of science, experiments, and statistics, rather than on doubtful inference from theories not yet determined or positively ascertained. Mr. Gladstone's critic may, however, be unaware of the attention which has been bestowed of late years on a physical defect of vision,—colour-blindness,—and he consequently contents himself by arguing solely from words employed in ancient and foreign languages, the ordinary meanings of which are uncertain, while the subjective impressions which they describe are still mere matter of opinion. He nevertheless advances many interesting facts about the spoken language of India, which, by his showing, presents an identical meagreness of colour epithets with those which characterise the ancient Greeks. But collateral evidence of this kind will not enable us to determine whether Homer's defective colour vocabulary was really "one of language and not of perception."

Those members of the profession to which I belong, and who devote, as I do, much attention to defects of vision, will I believe find no difficulty in accepting the theory that Homer's defect was congenital,—was, in fact, a fault of perception, and not one of poverty of language. If the facts furnished by Mr. Gladstone were the only evidence, they would point to this conclusion,—and to this conclusion above all others,—*viz.*, that Homer was colour-blind. The vagueness of epithets employed by him to denote colour finds a close parallel in the language employed by those congenitally colour-blind. Such persons are not conscious of the defect under which they labour, and this very vagueness of adjectives about colour is at all times one of the common proofs of colour-blindness in testing railway-guards, engine-drivers, and others.

Mr. Gladstone tells us that Homer's colour sense was limited at the "stage at which red and yellow, and possibly

deep purple, are definitely distinguished, but not green or blue. This is no uncommon experience of the red-colour blind.\* When a railway-guard confounds together not only reds, greens, and browns, but also, as it occasionally happens, shades of violet and reddish purple, he is pronounced incompletely colour-blind. When, however, he further confounds all shades of colour, having the same intensity of light, his colour-blindness is complete. Judging from language alone, Homer, it would appear, suffered from an *incomplete* form of colour-blindness. In such like cases we are unable to appeal to a common or ordinary objective standard of comparison, or test, for determining the precise value of the colour epithets generally in use. Although with the major part of mankind colour is entirely a matter of subjective impression, the colour vocabulary is, most assuredly, capable of educational improvement. On the other hand, colour-blindness is purely a physical defect of an intractable nature.

Some confusion and a certain amount of annoyance were occasioned, a few years ago, by the published conclusions of one who believed himself to be a connoisseur of pictures, but whose unfitness for the task consisted in his being colour-blind.

Dyschromatopsy, partial colour-blindness, is known to be prevalent among civilised nations. Mr. Gladstone's critic is probably aware of this, although no mention is made of so important a fact, he seemingly preferring to discuss Homer's defective colour system—or, as Mr. Gladstone prefers to put it, "his system in lieu of colour, since it was based upon light and its negative darkness rather than on colour proper"—entirely from a philological point of view, nothing daunted by the formidable character of the obstacles which "stand in the way of a perfectly satisfactory interpretation of the evidence furnished," meaning furnished by Philology alone. Homer, he infers, possessed a certain sense of colour redness, because he frequently employed the word *eruthros*; but as the adjective *red* is frequently used to denote other colours than red, this must be taken simply for what it is worth. To know that "wherever the Hindustani language is spoken *red* is used to designate a great variety of natural objects,—that horses, dogs, cows, tigers, lions, monkeys, in short all animals of a brown or reddish brown colour, are called red, and if of a darker brown (or even

\* "White light for the red-blind person is a mixture of the two primary colours in proportions which would appear to the normal eye a greenish blue verging on black."—HELMHOLTZ.



blue are called black : these are facts of interest to naturalists as well as philologists, but they do not assist us over much in the interpretation placed by scholars on the peculiarities of the Homeric colour vocabulary. It is quite unnecessary to go to India for parallel examples and incongruities of colour epithets, as our own vocabulary and the usage of our own people furnish examples enough. In many agricultural districts brown and reddish brown cows, of all shades of colour, are spoken of as red cows, purple berries as black-berries, and so forth. This form of speech is in no way conclusive of a meagre vocabulary : it is simply a conventional defect of language, a provincialism, which has lingered among the bucolic populations of this country for ages, and it is only to be got rid of by education or by mixing with urban peoples. It is no better proof of a limited or defective colour vocabulary than is the slipshod clipping of words so common among us, and which is excessively bewildering to the intelligent foreigner. An idiomatic phraseology is thought to be in no way significant of any meagreness of vocabulary among civilised nations. With reference, however, to the extent of the colour vocabulary especially, it is a fact that the colour sense can, equally with the other senses and with language as a whole, be cultivated and improved by education.

The aboriginal races of the Earth have heretofore exhibited great ignorance of colour, and their vocabularies are consequently of a very limited nature. But this was not the case with the Greeks of Homer's day, nor of the earlier Eastern races, whose love of colour has been unmistakably made historic in their textile fabrics, mosaics, and frescoes, which have been so wonderfully preserved as a proof of a fully-developed colour sense.

A very large number of our lower class of workmen are quite unable to name colours correctly. Their colour vocabulary, on examination, has been found to be extremely limited. Some trades seem to exert a deteriorating influence : for example, the men working in a gas-factory were examined as to their acquaintance with colours ; sixty-five stokers were tested, and twenty-four of them were found colour-blind. Of ordinary working men, a little higher in the social scale, a considerable percentage were discovered to be ignorant of colours. Of 268 soldiers tested only 163 exhibited an intelligent knowledge of colours, while 73 named them indifferently well, and 39·18 per cent were unable to discriminate perfectly between red and green, the majority being, in fact, red-blind. On one of the French railways, where all candidates for employment are very carefully

examined as to their colour vocabulary, of the 1050 applicants between the ages of 18 and 30 examined, 98 were rejected because of their ignorance of colour: a number of these, however, on closer examination, were found to be fairly able to distinguish the difference between red and green,—the two most important signalling colours on railways,—and only a small percentage were finally rejected.

The average percentage of colour-blind, among all classes of men, is 3·5 per cent; of women, only  $\frac{1}{2}$  per cent. Among the seafaring class the percentage is also remarkably low. From a Parliamentary Report, issued in 1879, of the examinations of candidates for masters' and mates' certificates in the Merchant Seamen's Service,—and which, oddly enough, are made compulsory on all alike, *except pilots*,—the percentage of colour-blind is given as 0·43 per cent (rather under a  $\frac{1}{2}$  per cent). But it appears that, as failures were often reported from ignorance of the names of colours and other causes, those rejected were allowed to present themselves a second time, when a third of the whole number passed the colour tests.

From a later return (1884), moved for by the Member for the University of Oxford, at my instigation, we derive other facts regarding the Mercantile Marine. Of the 85 candidates examined, no less a number than 79 were unable to distinguish a difference between green and red; 38 mistook yellow for red; 45 called blue, green; 16 called yellow, green; 4 black, green; 3 white, green; while others called dark green, yellow,—and blue, red. But, remarkable enough, rather more than a third (29) of the whole number examined, on presenting themselves a second time, obtained certificates from the examiners at other seaport towns, one only succeeding in London.

Colour-blindness, like other defects of vision, affects people in different degrees of intensity, and, like myopia or short-sight, it is frequently hereditary. In several instances I have witnessed its transmission through three generations, and it often becomes more pronounced in after-life, or when the near point of vision begins to recede.

It will be seen, then, that a statistical comparison of defects of perception of colour is always of importance, and especially so when discussing the obscure question of a meagre Homeric colour vocabulary. We might with advantage pursue the inquiry of a defective colour sense to the better educated classes, to men of culture, and who, it will be seen, more often suffer from the evils involved in a partial loss of the colour sense. Among the more highly educated

of all nationalities the average number of colour-blind is 4 per cent, an average in excess of that of all other classes. A man may have a good eye for form and outline, and yet be partially or wholly colour-blind. To select an instance from among many is difficult, but one impresses me more than the rest,—that of Wyatt the sculptor, who at the outset of his career was known as a remarkably good draughtsman. He naturally took to painting, but, as his pictures were observed to present curious incongruities of colour, that involved him in grievous difficulties, he with much reluctance was obliged to abandon the brush for the chisel. He was altogether unable to comprehend the nature of his defect,—indeed refused to believe that he was colour-blind. So of men who have attained to eminence in the world of letters, and whose writings unmistakably betray evidences of a meagre colour vocabulary. A striking example of this occurred in the person of my friend the late-lamented Angus B. Reach, whose life, alas! was prematurely shortened by over-work—brain-disease. He was unable to recognise a difference in colour between the leaf, the flower, and the fruit of plants and trees. His want of perception of colour was wholly unknown to, and unrecognised by, himself, until we sat together at the table of a Paris restaurant. He, wishing to finish his letter to the “Chronicle” newspaper, requested the waiter to bring him some ink. As it often happens, under similar circumstances, the ink was brought in a wine-glass. Reach became absorbed in his subject, while I, seated opposite to him, observed him alternately dipping his pen into his claret-glass and into the ink-glass. I frequently checked him, but presently to my surprise he took up the ink-glass and was about to drink, when I remonstrated, and he then said he could see no difference between the colour of the ink and the wine. On subsequently testing him I discovered that he was completely colour-blind.

From an examination of the Homeric colour sense, as indicated by Homeric colour epithets, and as resting on a scientific basis, and also from a statistical point of view, I venture to suggest that Homer was colour-blind. Indeed an analysis of the Homeric colour vocabulary strongly points to this conclusion. Homer certainly laboured under a physical defect of vision, and this fully explains the limited use of the terms he employed to express his sense of colour, and to which Mr. Gladstone has drawn attention.

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